



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/585,067

06/29/2006

Hiroyuki Tanaka

Q95248

5100

23373 7590 12/09/2010
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

BUIE-HATCHER, NICOLE M

ART UNIT

PAPER NUMBER

1767

NOTIFICATION DATE

DELIVERY MODE

12/09/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com
PPROCESSING@SUGHRUE.COM
USPTO@SUGHRUE.COM

Office Action Summary	Application No. 10/585,067	Applicant(s) TANAKA ET AL.	
	Examiner NICOLE M. BUIE-HATCHER	Art Unit 1767	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8,9,11,16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8,9,11,16 and 17 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1767

DETAILED ACTION

Claim Status

Claims 8, 9, 11, 16, and 17 remain pending.

Claim Objections

Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Since claim 8 recites an inorganic filler consisting of the crystalline carbon allotrope, no other inorganic filler can be added. Therefore, claim 16 does not further limit claim 8.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

Art Unit: 1767

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 8, 9, 11, and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Amin et al. (US 5,461,107) in view of Fujimura et al. (US 2003/0228249 A1).

Regarding claims 8, 9, and 16, Amin et al. discloses a perfluoroelastomer composition mixed with a non-fibrillating fluorocarbon particulate polymer which is not an inorganic filler (C3/L31-41). The elastomeric composition may also include one or more additives (C5/L58-65). Amin et al. is concerned with reduced coefficients of friction of the seal prepared from the perfluoroelastomer composition (C3/L19-23).

However, Amin et al. does not disclose a crystalline carbon allotrope. Fujimura et al. teaches a fluoroelastomer consisting of ultradispersed diamond particles which is used for sealing (UDD) [0336]. The average particle size of the diamond particles are 4.2 nm or less [0002]. Amin et al. and Fujimura et al. are analogous art concerned with the same field of endeavor, namely perfluoropolymers concerned with decrease in the friction of coefficient. It would have been obvious to one of ordinary skill in the art at the time of invention to substitute the additional additive of Amin et al. with the ultradispersed diamond particles per the teachings of Fujimura et al., and the motivation to do so would have been as Fujimura et al. suggests decreasing the friction coefficient of a perfluoro polymer or poly-fluoro elastic material [0336] and fluorine rubbers as well as increase tensile strength [0332]. Since other additives are

Art Unit: 1767

optional, the sealing material does not contain an inorganic filler other than the crystalline carbon allotrope.

Regarding claim 11, Amin et al. does not disclose the sealing material is for a semiconductor manufacturing equipment. The recitation of a new intended use for an obvious product does not make a claim to that obvious product patentable.

Claim 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Amin et al. (US 5,461,107) in view of Fujimura et al. (US 2003/0228249 A1).

Regarding claim 17, Amin et al. discloses a perfluoroelastomer composition mixed with a non-fibrillating fluorocarbon particulate polymer which is not an inorganic filler (C3/L31-41). The elastomeric composition may also include one or more additives (C5/L58-65). Amin et al. is concerned with reduced coefficients of friction of the seal prepared from the perfluoroelastomer composition (C3/L19-23).

However, Amin et al. does not disclose a crystalline carbon allotrope. Fujimura et al. teaches a fluoroelastomer consisting of ultradispersed diamond particles which is used for sealing (UDD) [0336]. The average particle size of the diamond particles are 4.2 nm or less [0002]. Amin et al. and Fujimura et al. are analogous art concerned with the same field of endeavor, namely perfluoropolymers concerned with decrease in the friction of coefficient. It would have been obvious to one of ordinary skill in the art at the time of invention to substitute the additive of Amin et al. with the ultradispersed diamond particles per the teachings of Fujimura et al., and the motivation to do so would have been as Fujimura et al. suggests

Art Unit: 1767

decreasing the friction coefficient of a perfluoro polymer or poly-fluoro elastic material [0336] and fluorine rubbers as well as increase tensile strength [0332].

Response to Arguments

Applicant's arguments, see page 2, filed 09/27/2010, with respect to the rejection(s) of claim(s) 8, 9, 11, and 16 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE M. BUIE-HATCHER whose telephone number is (571)270-3879. The examiner can normally be reached on Monday-Thursday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571)272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1767

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1767

/N. M. B./
Examiner, Art Unit 1767
11/29/2010